LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

(UGC Autonomous)

Approved by AICTE | Affiliated to Osmania University | Estd.2003.

Department of CSE-AIML

Course Outcomes & Course Articulation Matrix

ACADEMIC YEAR: 2025-26

Course Outcomes:

Semester No:	IV		
Course Title:	Introduction to Data Science (IDS)	**Course Code:**	**U24CM401**
Course Outcome No.	**Description**		
IDS.CO1	Use Python tools and libraries to perform basic data handling and visualization.		
IDS.CO2	Apply descriptive statistics and EDA techniques to analyze and interpret data.		
IDS.CO3	Build and evaluate supervised machine learning models.		
IDS.CO4	Perform regression and clustering techniques for predictive and unsupervised analysis.		
IDS.CO5	Analyze and visualize networks using graph-based methods and metrics.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
IDS.CO1	3	2	2		3							3	2
IDS.CO2	3	3	2		2							3	2
IDS.CO3	3	3	3		2							3	3
IDS.CO4	3	3	3		2							2	3
IDS.CO5	3	3	2		3							3	3
Average	**3**	**2.5**	**2.4**		**2.4**							**2.5**	**2.5**

Course Outcomes:

Semester No:	IV		
Course Title:	Artificial Intelligence (AI)	**Course Code:**	**U24CM402**
Course Outcome No.	**Description**		
AI.CO1	Understand AI basics, intelligent agents, and problem-solving approaches.		
AI.CO2	Apply search strategies, heuristics, and game-playing methods in problem solving.		
AI.CO3	Use knowledge representation and reasoning techniques.		
AI.CO4	Design intelligent software agents and manage agent interactions.		
AI.CO5	Explore AI applications in NLP, robotics, speech recognition, and planning.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
AI.CO1	3	2	1		1							2	1
AI.CO2	2	3	2		1							3	2
AI.CO3	2	3	3		1							3	2
AI.CO4	1	2	2		2							2	3
AI.CO5	1	3	2		2							3	3
Average	**1.8**	**2.4**	**2.8**		**1.8**							**2.6**	**2.2**

Course Outcomes:

Semester No:	IV		
Course Title:	JAVA Programming (JP)	**Course Code:**	U24IT402
Course Outcome No.	**Description**		
JP.CO1	Familiarization of OOP concepts and basics of java programming.		
JP.CO2	Describe the concept of interfaces and inheritance, how to solve real world problems.		
JP.CO3	Choose a suitable package to develop the inter process communication using multithreading.		
JP.CO4	Build GUI applications using AWT and Swings.		
JP.CO5	Describe the connectivity to database and java programming using JDBC Connectivity.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
JP.CO1	3	2	2	1	3	-	-	1	1	1	1	3	3
JP.CO2	3	3	2	1	3	-	-	1	1	1	2	3	2
JP.CO3	2	3	1	3	2	-	-	1	2	2	2	2	3
JP.CO4	3	3	3	1	3	-	-	1	2	2	3	3	3
JP.CO5	3	3	3	3	3	1	1	1	2	2	3	3	3
Average	2.8	2.8	2.2	1.8	2.8	1	1	1.0	1.6	1.6	2.2	2.8	2.8

Course Outcomes:

Semester No:	IV		
Course Title:	Automata Theory, Languages and Computation (ATLC)	**Course Code:**	**U24IT403**
Course Outcome No.	**Description**		
ATLC.CO1	Design a finite automation and establish its correspondence with regular languages.		
ATLC.CO2	Analyze regular expressions and prove a given language is regular or not.		
ATLC.CO3	Design pushdown automata for recognizing context free languages and establish equivalence of language of PDA and CFG.		
ATLC.CO4	Convert the given CFG into CNF and GNF		
ATLC.CO5	Design Turing machine for the given language and illustrate it's working and address their importance in computational problems		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
ATLC.CO1	3	2	3									3	2
ATLC.CO2	2	3	2									3	2
ATLC.CO3	2	3	3									3	3
ATLC.CO4	2	2										2	3
ATLC.CO5	2	3			3							3	3
Average	**2.8**	**2.2**	**1.5**		**3.0**							**2.8**	**2.6**

Course Outcomes:

Semester No:	IV		
Course Title:	Operating Systems (OS)	**Course Code:**	**U24CD401**
Course Outcome No.	**Description**		
OS.CO1	Understand the functions of operating systems		
OS.CO2	Analyze various CPU scheduling algorithms.		
OS.CO3	Apply and Analyze various deadlock algorithms.		
OS.CO4	Compare and contrast memory management strategies		
OS.CO5	Compare and contrast various file management strategies in different operating		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
OS.CO1	3	2	2	1	1	-	-	-	1	-	2	2	2
OS.CO2	3	3	2	2	2	-	-	-	1	-	2	3	2
OS.CO3	3	3	2	2	2	-	-	-	1	-	2	3	2
OS.CO4	3	3	2	2	2	-	-	-	2	-	2	3	2
OS.CO5	3	3	2	2	2	-	-	-	2	-	2	3	2
Average	**3.0**	**2.8**	**2.0**	**1.8**	**1.8**	**-**	**-**	**-**	**1.4**	**-**	**2.0**	**2.8**	**2.0**

Course Outcomes:

Semester No:	IV		
Course Title:	Operating Systems Lab (OSLab)	**Course Code:**	**U24CD4L!**
Course Outcome No.	**Description**		
OSLab.CO1	Execute UNIX commands and work with shell programming		
OSLab.CO2	Analyze the various system calls		
OSLab.CO3	Implementing CPU scheduling Algorithms.		
OSLab.CO4	Work with memory management and implement CPU scheduling algorithms.		
OSLab.CO5	Implementing deadlock handling mechanisms.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
OSLab.CO1	3	2	2	1	2	-	-	1	2	2	1	2	3
OSLab.CO2	3	3	2	2	2	-	-	1	2	2	-	2	3
OSLab.CO3	3	2	3	2	2	-	-	-	2	2	-	2	3
OSLab.CO4	3	2	3	2	2	-	-	-	2	2	-	2	3
OSLab.CO5	3	2	3	2	2	-	-	-	2	2	-	2	3
Average	**3.0**	**2.2**	**2.6**	**1.8**	**2.0**	**-**	**-**	**1.0**	**2.0**	**2.0**	**1.0**	**2.0**	**3.0**

Course Outcomes:

Semester No:	IV		
Course Title:	JAVA Programming Lab (JP Lab)	**Course Code:**	**U24IT4L2**
Course Outcome No.	**Description**		
JPLab.CO1	Develop Java applications using the concepts of Inheritance, Interfaces, Packages, and Control Specifiers.		
JPLab.CO2	Implement the concepts of Exception Handling in Java applications.		
JPLab.CO3	Read and write data using different Java I/O streams.		
JPLab.CO4	Create graphical user interfaces and Applets by applying the knowledge of Event Handling.		
JPLab.CO5	Create robust applications using Java Standard Class Libraries and retrieve data from a database with JDBC.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
JPLab.CO1	3	2	3	2	3	-	-	2	-	2	3	1	2
JPLab.CO2	3	2	2	-	3	-	-	2	-	-	2	1	2
JPLab.CO3	3	2	3	-	3	-	-	2	-	2	2	1	2
JPLab.CO4	3	2		-	3	-	-	-	-	-	-	2	2
JPLab.CO5	2	3	2	-	3	-	-	-	-	2	2	2	3
Average	**2.8**	**2.2**	**2.5**	**2.0**	**3.0**			**2.0**		**2.0**	**2.3**	**1.4**	**2.2**

Course Outcomes:

Semester No:	IV		
Course Title:	Artificial Intelligence Lab (AI Lab)	**Course Code:**	**U24CM4L2**
Course Outcome No.	**Description**		
AI Lab.CO1	Learn basic AI and problem-solving techniques.		
AI Lab.CO2	Implement Python programs for logical and combinatorial problems.		
AI Lab.CO3	Apply recursive, backtracking, and heuristic methods.		
AI Lab.CO4	Train and validate machine learning models.		
AI Lab.CO5	Analyze and interpret results for AI and ML problems.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
AI Lab.CO1	3	2	2		1							3	1
AI Lab.CO2	2	3	3		1							3	2
AI Lab.CO3	2	3	3		2							3	2
AI Lab.CO4	1	2	3		2							2	3
AI Lab.CO5	1	2	3		3							2	3
Average	**1.8**	**2.4**	**2.8**		**1.8**							**2.6**	**2.2**

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Course Outcomes & Course Articulation Matrix

ACADEMIC YEAR: 2025-26

Semester No:	VI		
Course Title:	Advanced Machine Learning	**Course Code:**	**U23CM601**
Course Outcome No.	**Description**		
AML.CO1	Introduce advanced concepts and methods of Machine learning.		
AML.CO2	Develop an understanding of the role of machine learning in massive scale automation.		
AML.CO3	Design and implement various machine learning algorithms in the range of real world applications.		
AML. CO4	Understand Reinforcement Learning through feedback network, function approximation.		
AML. CO5	Understand ensemble methods.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
AML.CO1	3	3	3	2	3	2	-	-	-	-	-	3	3
AML.CO2	3	2	3	3	3	2	-	-	-	-	-	2	3
AML.CO3	2	3	2	3	3	1	-	-	-	-	-	2	2
AML. CO4	3	3	3	3	2	2	-	-	-	-	-	3	2
AML. CO5	3	2	3	3	3	1	-	-	-	-	-	2	3
Average	**2.8**	**2.6**	**2.8**	**2.8**	**2.8**	**1. 6**	**-**	**-**	**-**	**-**	**-**	**2.4**	**2.6**

Course Outcomes:

Semester No:	VI		
Course Title:	Design and Analysis of Algorithms	**Course Code:**	**U23IT602**
Course Outcome No.	**Description**		
DAA.CO1	Demonstrate the use of Asymptotic notations to find the efficiency of Algorithms.		
DAA.CO2	Apply Divide-and-Conquer, Transform-and-Conquer and Decrease and Conquer to Solve Real World Problem.		
DAA.CO3	Apply Greedy Approach problem solving Techniques to solve real world problems.		
DAA.CO4	Apply Dynamic Programming problem solving Techniques to solve real world problems.		
DAA.CO5	Apply and Analyze Backtracking and Branch and Bound approaches for solving real world problems and Distinguish P and NP Problems		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
DAA.CO1	3	3	3	3	2	-	-	-	-	-	-	2	2
DAA.CO2	2	2	2	3	3	-	-	-	-	-	2	3	3
DAA.CO3	3	3	3	3	3	-	-	-	-	-	2	3	3
DAA.CO4	3	2	3	3	3	-	-	-	-	-	2	3	2
DAA.CO5	3	3	2	2	3	-	-	-	-	-	2	3	3
Average	**2.8**	**2.8**	**2.6**	**2.8**	**3**	**-**	**-**	**-**	**-**	**-**	**2.4**	**2.8**	**2.6**

Semester No:	VI		
Course Title:	Computer Networks	**Course Code:**	**U23CD602**
Course Outcome No.	**Description**		
CN.CO1	Explain the function of each layer of OSI and trace the flow of information from one Node to another node in the network		
CN.CO2	Familiarise with the Transmission Media, Flow Control and Error Detection and Correction		
CN.CO3	Describe the principles of IP addressing and internet routing		
CN.CO4	Implement client-server socket-based networked applications		
CN.CO5	Describe the working of various networked applications such as DNS, mail, file transfer and www.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CN.CO1	3	2	1		1							2	1
CN.CO2	2	3	2		1							3	2
CN.CO3	2	3	3		1							3	2
CN.CO4	1	2	2		2							2	3
CN.CO5	1	3	2		2							3	3
Average	**1.8**	**2.6**	**2.0**		**1.4**							**2.6**	**2.2**

Course Outcomes:

Semester No:	VI		
Course Title:	Advanced Machine Learning Lab	**Course Code:**	**U23CM6L1**
Course Outcome No.	**Description**		
AML Lab. CO1	Implement various protocols using classification and regression techniques		
AML Lab. CO2	Implement clustering mechanisms		
AML Lab. CO3	Implement Decision trees.		
AML Lab. CO4	Implement and Analyze various random forest techniques.		
AML Lab. CO5	Implement Decision trees.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
AML Lab. CO1	3	3	3	2	3	-	-	-	1	2	-	3	3
AML Lab. CO2	3	2	2	2	2	-	-	-	1	2	-	2	3
AML Lab. CO3	3	3	3	2	2	-	-	-	1	2	-	3	3
AML Lab. CO4	3	3	3	2	3	-	-	-	1	2	-	3	3
AML Lab. CO5	3	3	3	3	3	-	-	-	2	3	2	3	3
Average	**3.0**	**2.8**	**2.8**	**2.0**	**2.6**				**1**	**2.2**	**0.4**	**2.8**	**3.0**

Course Outcomes:

Semester No:	VI		
Course Title:	Computer Networks Lab (CNLab)	**Course Code:**	**U23CD6L2**
Course Outcome No.	**Description**		
CNLab.CO1	Understand the usage of basic commands ipconig, ifconfig, netstat, ping, arp, telnet, ftp, finger, trace route, who is of LINUX platform.		
CNLab.CO2	Develop and Implement Client-Server Socket based programs using TCP, and UDP sockets.		
CNLab.CO3	To make a client server communication through TCP and UDP protocols.		
CNLab.CO4	To expose on advanced socket programming in LINUX environment.		
CNLab.CO5	Understanding of transport layer protocols : connection oriented and connection-less models, techniques to provide reliable data delivery.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CNLab.CO1	3	2	1	1	3	-	-	-	1	-	2	3	1
CNLab.CO2	3	3	3	2	3	-	-	2	1	1	2	3	3
CNLab.CO3	3	3	3	2	3	-	-	2	2	1	2	3	3
CNLab.CO4	2	2	3	3	3	-	-	2	1	1	3	3	3
CNLab.CO5	3	3	2	2	2	1	-	1	-	-	3	3	2
Average	**2.8**	**2.6**	**2.4**	**2.0**	**2.8**	**1.0**		**1.4**	**1.0**	**0.6**	**2.4**	**3.0**	**2.4**

Course Outcomes:

Semester No:	VI		
Course Title:	Design and Analysis of Algorithms Lab (DAALab)	**Course Code:**	**U23IT6L2**
Course Outcome No.	**Description**		
DAALab.CO1	Implement fundamental algorithms like sorting, searching, and graph algorithms using a programming language.		
DAALab.CO2	Analyze the time and space complexity of algorithms using Big-O notation.		
DAALab.CO3	Design efficient algorithms using paradigms such as divide and conquer, dynamic programming, and greedy methods.		
DAALab.CO4	Apply algorithmic techniques to solve real-world problems effectively.		
DAALab.CO5	Write algorithms for improved performance, balancing time and space complexity using optimization techniques.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
DAALab.CO1	3	2	2	1	3	-	-	1	2	1	2	3	3
DAALab.CO2	3	3	1	2	2	-	-	-	1	-	2	3	3
DAALab.CO3	3	3	3	3	3	1	-	1	2	1	3	3	3
DAALab.CO4	3	3	2	3	3	-	-	2	3	2	2	3	3
DAALab.CO5	3	3	3	3	3	-	-	1	3	3	3	3	3
Average	**3.0**	**2.8**	**2.2**	**2.4**	**2.8**	**0.2**		**1.0**	**2.2**	**1.4**	**2.4**	**3.0**	**3.0**

Course Outcomes:

Semester No:	VI		
Course Title:	**Artificial Neural Network** (ANN)	**Course Code:**	U23CM603
Course Outcome No.	**Description**		
ANN.CO1	Explain the biological foundations, neuron structure, and basic concepts of neural networks.		
ANN.CO2	Analyze ANN architectures, neuron models, and learning paradigms.		
ANN.CO3	Apply perceptron learning, Hebbian learning, and backpropagation algorithms.		
ANN.CO4	Evaluate advanced neural network models such as RBF, PNN, and adaptive networks.		
ANN.CO5	Apply SVM, SOM, Boltzmann Machines, and Genetic Algorithms for prediction and optimization.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
ANN.CO1	3	2	-	1	1	-	-	-	-	-	2	-	2
ANN.CO2	2	3	2	2	2	-	-	-	-	-	2	-	3
ANN.CO3	2	3	3	2	3	-	-	-	-	-	2	-	3
ANN.CO4	-	3	2	3	3	-	-	-	-	-	2	-	3
ANN.CO5	-	3	2	3	3	-	-	-	-	-	3	-	3
Average	**2.3**	**2.8**	**2.3**	**2.2**	**2.4**						**2.2**		**2.8**

Course Outcomes:

Semester No:	VI		
Course Title:	**Basics of 3-D Printing** (B3DPT)	**Course Code:**	**U23ME608**
Course Outcome No.	**Description**		
B3DPT.CO1	Explain the fundamental concepts of 3D Printing and process parameters of additive manufacturing processes		
B3DPT.CO2	Select the suitable material and process for fabricating a given product.		
B3DPT.CO3	Describe the working principle and applications of liquid, solid and Powder based 3D Printing Technologies.		
B3DPT.CO4	Compare and contrast additive manufacturing processes with conventional manufacturing methods in terms of rate, quality, flexibility, part complexity and cost.		
B3DPT.CO5	Explore the range of 3D printing and Prototyping technologies and their application for industrial, design, and creative field.		
B3DPT.CO6	Evaluate the emerging applications of AM across major industries, including medical, dental, aerospace, vehicle structures, and consumer products and gain hands on experience in designing and fabricating AM parts.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
B3DPT.CO1	3	2	_	1	2	_	_	_	_	_	1	3	2
B3DPT.CO2	2	3	2	1	3	_	_	_	_	_	_	3	3
B3DPT.CO3	2	2	3	2	2	_	_	_	_	_	_	3	2
B3DPT.CO4	1	3	2	2	_	_	_	_	_	_	1	2	3
B3DPT.CO5	2	2	3	2	_	_	_	_	_	_	1	3	2
B3DPT.CO6	2	2	_	3	3	_	_	_	_	_	3	3	3
B3DPT.Avg	**2**	**2.3**	**2.5**	**1.8**	**2.5**	**_**	**_**	**_**	**_**	**_**	**1.5**	**2.8**	**2.5**

LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

(UGC Autonomous)

Approved by AICTE | Affiliated to Osmania University | Estd.2003.

Department of CSE-AIML

Course Outcomes & Course Articulation Matrix

ACADEMIC YEAR: 2025-26

Course Outcomes:

Semester No:	VIIII		
Course Title:	Social Media And Data Analytics (SMDA)	**Course Code:**	**U21CM803**
Course Outcome No.	**Description**		
SMDA.CO1	Demonstrate the role of social media in engineering and its impact on society.		
SMDA.CO2	Discuss data analytics techniques for analyzing social media data.		
SMDA.CO3	Analyse methods for extracting insights and trends from social media data.		
SMDA.CO4	Operate skills in using data analytics tools and software for social media analysis.		
SMDA.CO5	Apply data analytics techniques to engineering problems in the context of social media.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
SMDA.CO1	2	1				3	2		2			2	
SMDA.CO2	3	2		2							1	2	2
SMDA.CO3	3	3	2	3	2				1		2	3	3
SMDA.CO4	3	2	2	3	3						2	3	3
SMDA.CO5	3	3	3	3	3		2		1		3	3	3
Average	**2.8**	**2.2**	**2.3**	**2.8**	**2.5**	**3.0**	**2.0**		**1.2**		**2.2**	**2.6**	**2.8**

Course Outcomes:

Semester No:	VIII		
Course Title:	E-Marketing (EM)	**Course Code:**	**U21MB803**
Course Outcome No.	**Description**		
EM.CO1	Describe the steps in security systems development life cycle (SecSDLC).		
EM.CO2	Understand the legal and ethical issues, common threats and attack to information systems.		
EM.CO3	Identify security needs using risk management and choose the appropriate risk control strategy based on business needs.		
EM.CO4	Use the basic knowledge of security frameworks in preparing security blueprint for the organization.		
EM.CO5	Use ethical hacking tools to study attack patterns and cryptography and secure communication protocols.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
EM.CO1	3	2	3	2	1	2	-	-	1	-	-	3	1
EM.CO2	3	3	2	2	1	1	-	-	-	-	1	3	2
EM.CO3	3	3	3	2	2	-	-	-	-	-	2	3	-
EM.CO4	3	3	3	2	1	1	-	-	-	-	1	2	3
EM.CO5	3	3	2	2	-	2	-	-	-	-	1	3	3
Average	**3.0**	**2.8**	**2.6**	**2.0**	**1.2**	**1.2**			**0.2**		**0.8**	**2.8**	**2.0**

Course Outcomes:

Semester No:	VIII		
Course Title:	Internet of Things (IOT)	**Course Code:**	**U21CM806**
Course Outcome No.	**Description**		
IOT.CO1	Understand Internet of Things and its hardware and software components		
IOT.CO2	Interface I/O devices, sensors & communication modules		
IOT.CO3	Remotely monitor data and control devices		
IOT.CO4	Develop real life IOT based projects.		
IOT.CO5	Summarize the genesis and impact of IoT applications, architectures in real world.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
IOT.CO1	3	2			2	1						2	1
IOT.CO2	2	2	3	2	3							3	2
IOT.CO3	2	3	2	2	3							2	2
IOT.CO4	2	2	3	3	3	1			1			3	3
IOT.CO5	3	3	2		2	1						2	2
Average	**2.4**	**2.4**	**2.5**	**2.3**	**2.6**	**1.0**			**1.0**			**2.4**	**2.0**

Course Outcomes:

Semester No:	VIII		
Course Title:	Major Project Phase - II (MP)	**Course Code:**	**U21CM8P1**
Course Outcome No.	**Description**		
MP.CO1	Possess a solid understanding of project management principles and methodologies applicable to engineering projects		
MP.CO2	Demonstrate proficiency in conducting literature reviews, research, and preliminary design activities		
MP.CO3	Develop comprehensive project proposals that effectively communicate project objectives, methodologies, and timelines.		
MP.CO4	Apply engineering tools and software for modeling, simulation, and analysis in the context of their project requirements		
MP.CO5	Communicate project ideas, progress, and findings clearly and persuasively through written reports, presentations, and other media		
MP.CO6	Adhere to ethical guidelines and professional standards in all aspects of project planning and execution.		

Course Articulation Matrix:

Mapping of Course Outcomes (CO) with Program Outcomes (PO's) and Program Specific Outcomes (PSO's):

Course Outcomes (CO's)	**Program Outcomes (PO)**											**Program Specific Outcomes (PSO's)**	
	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
MP.CO1	3	3	3		2	3	2		3	2	3	3	3
MP.CO2	3	3	3	2	3	2	3	2	3	2	3	3	3
MP.CO3	3	2	3	2	2	2	3	2	3	2	3	2	2
MP.CO4	3	3				2		3	3	3	2	2	1
MP.CO5	3	2				2		3	3	3	2	1	1
MP.CO6	3	2			2	2	3	2	2	3	3	2	1
MP.CO1	3	3	3		2	3	2		3	2	3	3	3